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United States Department of Agriculture,

DIVISION OF PUBLICATIONS—Circular 13.

JOS. A. ARNOLD, Editor in Chief.

WASHINGTON, *February 8, 1912.*

PUBLICATIONS OF THE BUREAU OF PLANT INDUSTRY.

NOTE.—Application for publications in this list should be made to the Editor and Chief of the Division of Publications, United States Department of Agriculture, Washington, D. C. The editions of some of the publications are necessarily limited, and when the supply is exhausted and no funds are available for procuring additional copies, applicants are referred to the Superintendent of Documents, Government Printing Office, who has them for sale at a nominal price, under the law of January 12, 1895. Applicants are urgently requested to ask only for those publications in which they are particularly interested. The department can not undertake to supply complete sets, nor is it allowable to send more than one copy of any publication to an applicant.

REPORTS.

Report of the Chief for 1901.

Same, 1906.

Same, 1908.

Same, 1910.

Same, 1907.

Same, 1909.

BULLETINS.

(In applying for these bulletins the name of the bureau as well as the number of the bulletin should be given, as "Bureau of Plant Industry, Bulletin No. 2.")

Bul. 2. Spermatogenesis and Fecundation of *Zamia*.

4. Range Improvement in Arizona.

6. A List of American Varieties of Peppers.

8. A Collection of Economic and Other Fungi, Prepared for Distribution.

10. Records of Seed Distribution and Cooperative Experiments with Grasses and Forage Plants.

11. Johnson Grass: Report of Investigations Made during the Season of 1901.

20. Manufacture of Semolina and Macaroni.

25. Miscellaneous Papers: I. The Seeds of Rescue Grass and Chess. II. Saragolla Wheat. III. Plant Introduction Notes from South Africa. IV. Congressional Seed and Plant Distribution Circulars, 1902-1903.

27. Letters on Agriculture in the West Indies, Spain, and the Orient.

31. Cultivated Forage Crops of the Northwestern States.

33. North American Species of *Leptochloa*.

38. Forage Conditions and Problems in Eastern Washington, Eastern Oregon, Northeastern California, and Northwestern Nevada.

39. The Propagation of the Easter Lily from Seed.

43. Japanese Bamboos and Their Introduction into America.

45. The Physiological Rôle of Mineral Nutrients in Plants.

- Bul. 51. Miscellaneous Papers: Part I. The Wilt Disease of Tobacco and Its Control. Same, Part II. The Work of the Community Demonstration Farm at Terrell, Tex.
 Same, Part III. Fruit Trees Frozen in 1904.
 Same, Part IV. The Cultivation of the Australian Wattle.
57. Methods Used for Controlling and Reclaiming Sand Dunes.
59. Pasture, Meadow, and Forage Crops in Nebraska.
62. Notes on Egyptian Agriculture.
65. Reclamation of Cape Cod Sand Dunes.
67. Range Investigations in Arizona.
70. The Commercial Status of Durum Wheat.
72. Miscellaneous Papers: I. Cultivation of Wheat in Permanent Alfalfa Fields. II. The Salt Water Limits of Wild Rice. III. Extermination of Johnson Grass. IV. Inoculation of Soil with Nitrogen-Fixing Bacteria.
 Same, Part I. Cultivation of Wheat in Permanent Alfalfa Fields.
 Same, Part II. The Salt Water Limits of Wild Rice.
 Same, Part III. Extermination of Johnson Grass.
73. The Development of Single-Germ Beet Seed.
75. Range Management in the State of Washington.
76. Copper as an Algicide and Disinfectant in Water Supplies.
77. The Avocado, a Salad Fruit from the Tropics.
79. The Variability of Wheat Varieties in Resistance to Toxic Salts.
80. Agricultural Explorations in Algeria.
81. Evolution of Cellular Structures.
82. Grass Lands of the South Alaska Coast.
85. Principles of Mushroom Growing and Mushroom Spawn Making.
86. Agriculture without Irrigation in the Sahara Desert.
88. Weevil-Resisting Adaptations of the Cotton Plant.
89. Wild Medicinal Plants of the United States.
90. Miscellaneous Papers: Part I. The Storage and Germination of Wild Rice Seed.
 Same, Part II. The Crown-Gall and Hairy-Root Diseases of the Apple Tree.
 Same, Part IV. The Poisonous Action of Johnson Grass.
91. Varieties of Tobacco Seed Distributed in 1905-6, with Cultural Directions.
98. Soy Bean Varieties.
100. Miscellaneous Papers: I. Cranberry Spraying Experiments in 1905. II. The Wrapping of Apple Grafts and Its Relation to the Crown-Gall Disease. III. Garlicky Wheat. IV. Methods of Testing the Burning Quality of Cigar Tobacco. V. The Drug Known as Pinkroot. VI. Orchard Grass. VII. The Effect of Copper upon Water Bacteria. VIII. Conditions Affecting Legume Inoculation.
 Same, Part III. Garlicky Wheat.
 Same, Part IV. Methods of Testing the Burning Quality of Cigar Tobacco.
 Same, Part V. The Drug Known as Pinkroot.
 Same, Part VI. Orchard Grass.
 Same, Part VII. The Effect of Copper upon Water Bacteria.
 Same, Part VIII. Conditions Affecting Legume Inoculation.
102. Miscellaneous Papers: Part I. Summary of Recent Investigations of the Value of Cacti as Stock Food.
 Same, Part II. A Successful Dairy Farm.
 Same, Part IV. The Application of Vegetative Propagation to Leguminous Forage Plants.
 Same, Part V. The Control of Texas Root-Rot of Cotton.
 Same, Part VII. A New Method for the Determination of Nicotine in Tobacco.
108. Cold Storage of Small Fruits.

- Bul. 111. Miscellaneous Papers: Part I. The Larkspurs as Poisonous Plants. II. The Fibers of Long-Staple Upland Cottons. III. Imported Low-Grade Clover and Alfalfa Seed. IV. Forage Crops for Hogs in Kansas and Oklahoma. V. The Culture and Uses of Brome-Grass.
- Same, Part I. The Larkspurs as Poisonous Plants.
- Same, Part II. The Fibers of Long-Staple Upland Cottons.
- Same, Part IV. Forage Crops for Hogs in Kansas and Oklahoma.
- Same, Part V. The Culture and Uses of Brome-Grass.
115. The Disinfection of Sewage Effluents for the Protection of Public Water Supplies.
116. The Tuna as Food for Man.
117. The Reseeding of Depleted Range and Native Pastures.
119. The Mulberry and Other Silkworm Food Plants.
121. Miscellaneous Papers: I. The Supposed Relationship of White Snakeroot to Milksickness, or "Trembles." II. Mountain Laurel: A Poisonous Plant. III. Results of Loco-Weed Investigations in the Field and Laboratory Work on Loco-Weed Investigations. IV. The Sources of Arsenic in Certain Samples of Dried Hops. V. Apple Leaf-Spot Caused by *Sphaeropsis Malorum*. VI. The Immunity of the Japanese Chestnut to the Bark Disease.
- Same, Part I. The Supposed Relationship of White Snakeroot to Milksickness, or "Trembles."
- Same, Part II. Mountain Laurel, a Poisonous Plant.
- Same, Part IV. The Sources of Arsenic in Certain Samples of Dried Hops.
- Same, Part V. Apple Leaf-Spot Caused by *Sphaeropsis Malorum*.
- Same, Part VI. The Immunity of the Japanese Chestnut to the Bark Disease.
122. Curly-Top, a Disease of the Sugar Beet.
123. The Decay of Oranges While in Transit from California.
124. The Prickly Pear as a Farm Crop.
125. Dry-Land Olive Culture in Northern Africa.
127. The Improvement of Mountain Meadows.
128. Egyptian Cotton in the Southwestern United States.
129. Barium, a Cause of the Loco-Weed Disease.
131. Miscellaneous Papers: I. The Germination of Vegetable Seeds. II. The Botanical History and Classification of Alfalfa. III. The Cross-Inoculation of Fruit Trees and Shrubs with Crown-Gall. IV. Recent Studies of the Olive-Tubercle Organism. V. The Nectaries of Cotton.
- Same, Part I. The Germination of Vegetable Seeds.
- Same, Part II. The Botanical History and Classification of Alfalfa.
- Same, Part III. The Cross-Inoculation of Fruit Trees and Shrubs with Crown-Gall.
- Same, Part IV. Recent Studies of the Olive-Tubercle Organism.
- Same, Part V. The Nectaries of Cotton.
133. Peach, Apricot, and Prune Kernels as By-Products of the Fruit Industry of the United States.
134. The Influence of a Mixture of Soluble Salts, Principally Sodium Chlorid, upon the Leaf Structure and Transpiration of Wheat, Oats, and Barley.
135. Orchard Fruits in the Piedmont and Blue Ridge Regions of Virginia and the South Atlantic States.
137. Seeds and Plants Imported during the Period from January 1 to March 31, 1908. Inventory No. 14; Nos. 21732 to 22510.
139. American Medicinal Barks.
141. Miscellaneous Papers: I. The Relation of Nicotine to the Burning Quality of Tobacco. II. The Granville Tobacco Wilt. III. The Florida Velvet Bean and Its History. IV. The Importance of Broad Breeding in Corn. V. The Present Status of the Chestnut-Bark Disease.
- Same, Part II. The Granville Tobacco Wilt.
- Same, Part III. The Florida Velvet Bean and Its History.
- Same, Part IV. The Importance of Broad Breeding in Corn.

- Bul. 142. Seeds and Plants Imported During the Period from April 1 to June 30, 1908. Inventory No. 15; Nos. 22511 to 23322.
- 143. Principles and Practical Methods of Curing Tobacco.
- 144. Apple Blotch, a Serious Disease of Southern Orchards.
- 145. Vegetation Affected by Agriculture in Central America.
- 146. The Superiority of Line Breeding over Narrow Breeding.
- 147. Suppressed and Intensified Characters in Cotton Hybrids.
- 148. Seeds and Plants Imported During the Period from July 1 to September 30, 1908. Inventory No. 16; Nos. 23323 to 23744.
- 149. Diseases of Deciduous Forest Trees.
- 150. The Wild Alfalfas and Clovers of Siberia, with a Perspective View of the Alfalfas of the World.
- 151. Fruits Recommended by the American Pomological Society for Cultivation in the Various Sections of the United States and Canada.
- 152. The Loose Smuts of Barley and Wheat.
- 153. Seeds and Plants Imported during the Period from October 1 to December 31, 1908. Inventory No. 17; Nos. 23745 to 24429.
- 154. Farm Water Supplies of Minnesota.
- 156. A Study of Diversity in Egyptian Cotton.
- 157. The Truckee-Carson Experiment Farm.
- 158. The Root-Rot of Tobacco Caused by *Thielavia Basicola*.
- 159. Local Adjustment of Cotton Varieties.
- 160. Italian Lemons and Their By-Products. I. The Italian Lemon Industry.
II. The By-Products of the Lemon in Italy.
- 161. A New Type of Indian Corn from China.
- 162. Seeds and Plants Imported during the Period from January 1 to March 31, 1909. Inventory No. 18; Nos. 24430 to 25191.
- 164. Promising Root Crops for the South. I. Yautias, Taros, and Dasheens.
II. Agricultural History and Utility of the Cultivated Aroids.
- 166. The Mistletoe Pest in the Southwest.
- 168. Seeds and Plants Imported during the Period from April 1 to June 30, 1909. Inventory No. 19; Nos. 25192 to 25717.
- 169. Variegated Alfalfa.
- 170. Traction Plowing.
- 171. Some Fungous Diseases of Economic Importance. I. Miscellaneous Diseases. II. Pineapple Rot Caused by *Thielaviopsis Paradoxa*.
- 172. Grape Investigations in the Vinifera Regions of the United States with Reference to Resistant Stocks, Direct Producers, and Viniferas.
- 173. Seasonal Nitrification as Influenced by Crops and Tillage.
- 174. The Control of Peach Brown-Rot and Scab.
- 175. The History and Distribution of Sorghum.
- 176. Seeds and Plants Imported during the Period from July 1 to September 30, 1909. Inventory No. 20; Nos. 25718 to 26047.
- 177. A Protected Stock Range in Arizona.
- 178. Improvement of the Wheat Crop in California.
- 179. The Florida Velvet Bean and Related Plants.
- 180. Agricultural and Botanical Explorations in Palestine.
- 181. The Curly-Top of Beets.
- 182. Ten Years' Experience with the Swedish Select Oat.
- 183. Field Studies of the Crown-Gall of the Grape.
- 184. The Production of Vegetable Seeds: Sweet Corn and Garden Peas and Beans.
- 185. Cold Resistance of Alfalfa and Some Factors Influencing it.
- 187. A Study of Cultivation Methods and Crop Rotations for the Great Plains Area.
- 188. Dry Farming in Relation to Rainfall and Evaporation.
- 189. The Source of the Drug Dioscorea, with a Consideration of the Dioscoreae Found in the United States.

- Bul. 190. Orchard Green-Manure Crops in California.
- 191. The Value of First-Generation Hybrids in Corn.
- 192. The Drought Resistance of the Olive in the Southwestern States.
- 193. Experiments in Blueberry Culture.
- 194. Summer Apples in the Middle Atlantic States.
- 195. The Production of Volatile Oils and Perfumery Plants in the United States.
- 198. Dimorphic Branches in Tropical Crop Plants: Cotton, Coffee, Cacao, the Central American Rubber Tree, and the Banana.
- 199. The Determination of the Deterioration of Maize, with Incidental Reference to Pellagra.
- 200. Breeding New Types of Egyptian Cotton.
- 201. Natural Vegetation as an Indicator of the Capabilities of Land for Crop Production in the Great Plains Area.
- 202. The Seedling-Inarch and Nurse-Plant Methods of Propagation.
- 203. The Importance and Improvement of the Grain Sorghums.
- 204. Agricultural Explorations in the Fruit and Nut Orchards of China.
- 205. Seeds and Plants Imported during the Period from October 1 to December 31, 1909. Inventory No. 21; Nos. 26048 to 26470.
- 206. The Blister Rust of White Pine.
- 207. Seeds and Plants Imported during the Period from January 1 to March 31, 1910. Inventory No. 22; Nos. 26471 to 27480.
- 208. Seeds and Plants Imported during the Period from April 1 to June 30, 1910. Inventory No. 23; Nos. 27481 to 28324.
- 209. Grimm Alfalfa and Its Utilization in the Northwest.
- 210. Hindi Cotton in Egypt.
- 211. Bacteriological Studies of Soils of the Truckee-Carson Irrigation Project.
- 214. The Timber Rot Caused by *Lenzites Sepiaria*.
- 215. Agriculture in the Central Part of the Semiarid Portion of the Great Plains.
- 216. The Rusts of Grains in the United States.
- 217. Root-Knot and Its Control.
- 220. Relation of Drought to Weevil Resistance in Cotton.
- 221. Dimorphic Leaves of Cotton and Allied Plants in Relation to Heredity.
- 222. Arrangement of Parts in the Cotton Plant.
- 223. Seeds and Plants Imported during the Period from July 1 to September 30, 1910. Inventory No. 24; Nos. 28325 to 28880.
- 224. Timothy Rust in the United States.
- 225. A Spot Disease of Cauliflower.
- 227. Seeds and Plants Imported during the Period from October 1 to December 31, 1910. Inventory No. 25; Nos. 28883 to 29327.
- 230. The Wilting Coefficient for Different Plants and Its Indirect Determination.
- 231. Absorption and Excretion of Salts by Roots as Influenced by Concentration and Composition of Culture Solutions. I. Concentration Relations of Dilute Solutions of Calcium and Magnesium Nitrates to Pea Roots.
- 235. Wild Volatile-Oil Plants and Their Economic Importance: I.—Black Sage; II.—Wild Sage; III.—Swamp Bay.
- 237. Grain-Sorghum Production in the San Antonio Region of Texas.

MISCELLANEOUS.

[In applying for these publications the name of the bureau as well as the full title of the publication should be given.]

Crimson Clover Seed.

The Agricultural Grasses and Forage Plants of the United States; and Such Foreign Kinds as Have Been Introduced.

A New Hollyhock Disease.

Peach Rot and Peach Blight.

A Disease of Almond Trees. Suggestions in Regard to the Treatment of *Cercospora Circumscissa*. (Reprint from the Journal of Mycology, Vol. 7, No. 2.)

Treatment of Plant Diseases. (Extract from the Journal of Mycology, Vol. 6, No. 1.)
 Sugar-Beet Pulp as Animal Food. (Reprint from Report No. 74, Office of the Secretary.)

Single-Germ Beet Balls and Other Suggestions for Improving Sugar-Beet Culture. (Reprint from Report No. 74, Office of the Secretary.)

Proceedings of the National Convention for the Suppression of Insect Pests and Plant Diseases by Legislation.

CIRCULARS.

[In applying for these circulars the name of the bureau as well as the number of the circular should be given, as "Bureau of Plant Industry, Circular No. 3."]

- Circ. 3. Some Stem Tumors or Knots on Apple and Quince Trees.
4. The Treatment of Damping-Off in Coniferous Seedlings.
 6. The Cultivation and Handling of Goldenseal.
 7. The Field Treatment of Tobacco Root-Rot.
 8. The Smuts of Sorghum.
 9. Texas Root-Rot of Cotton: Field Experiments in 1907.
 11. Danger in Judging Cotton Varieties by Lint Percentages.
 13. The Work of the San Antonio Experiment Farm in 1907.
 15. The Fertilizing Value of Hairy Vetch for Connecticut Tobacco Fields.
 16. A New Basis for Barley Valuation and Improvement.
 18. Reappearance of a Primitive Character in Cotton Hybrids.
 19. The Decay of Florida Oranges while in Transit and on the Market.
 22. Farm Methods of Applying Land Plaster in Western Oregon and Western Washington.
 23. Potato Diseases in San Joaquin County, California.
 24. Alfalfa in Cultivated Rows for Seed Production in Semiarid Regions.
 25. The Cost of Clearing Logged-Off Land for Farming in the Pacific Northwest.
 26. Some Factors Affecting the Keeping Qualities of American Lemons.
 29. Experiments with Egyptian Cotton in 1908.
 30. Improvement of the Oat Crop.
 31. Notes on the Number and Distribution of Native Legumes in Nebraska and Kansas.
 32. Moisture Content and Shrinkage in Grain.
 33. The Necessity for New Standards of Hop Valuation.
 35. The Present Status of the White-Pine Blights.
 36. The Bud-Rot of the Coconut Palm.
 37. Comparative Tests of Sugar-Beet Varieties.
 41. The South African Pipe Calabash.
 43. The Deterioration of Corn in Storage.
 45. The Utilization of Pea-Cannery Refuse for Forage.
 46. The Limitation of the Satsuma Orange to Trifoliate-Orange Stock.
 47. Prickly Comfrey as a Forage Crop.
 48. The Present Status of the Tobacco Industry.
 49. Improvement of Pastures in Eastern New York and the New England States.
 50. Three Much-Misrepresented Sorghums.
 51. Fruit Growing for Home Use in the Central and Southern Great Plains.
 52. Wart Disease of the Potato.
 54. The Substitution of Lime-Sulphur Preparations for Bordeaux Mixture in the Treatment of Apple Diseases.
 55. American Export Corn (Maize) in Europe.
 56. Some Conditions Influencing the Yield of Hops.
 57. The Cultivation of Hemp in the United States.
 58. Experiments on the Apple with Some New and Little-Known Fungicides.
 59. Dry-Land Grains for Western North and South Dakota.
 60. Suggestions to Settlers on the Sandy Soils of the Columbia River Valley.

- Circ. 61. Dry-Land Grains in the Great Basin.
 62. The Separation of Seed Barley by the Specific Gravity Method.
 63. Methods of Legume Inoculation.
 64. Agricultural Conditions in Southern New York.
 65. Grape Spraying Experiments in Michigan.
 66. Cotton Selection on the Farm by the Characters of the Stalks, Leaves, and Bolls.
 67. Seed Sterilization and Its Effects upon Seed Inoculation.
 68. Handling Wheat from Field to Mill.
 70. Additional Notes on the Number and Distribution of Native Legumes in Nebraska and Kansas.
 71. Legume Inoculation and the Litmus Reaction of Soils.
 72. A Moisture Tester for Grain and Other Substances and How to Use It.
 73. The Distinguishing Characters of the Seeds of Quack-Grass and of Certain Wheat-Grasses.
 74. The Sulphur Bleaching of Commercial Oats and Barley.
 75. Agricultural Survey of Four Townships in Southern New Hampshire.
 76. The Relation of Crown-Gall to Legume Inoculation.
 78. Agricultural Observations on the Truckee-Carson Irrigation Project.
 79. Winter Wheat in Western South Dakota.
 80. Forage Crops for the Sand-Hill Section of Nebraska.
 81. The Shrinkage of Corn in Storage.
 82. Crop Plants for Paper Making.
 83. Suggestions to Settlers on the Belle Fourche Irrigation Project.
 84. Suggested Cropping Systems for the Black Lands of Texas.
 85. Crown-Gall and Sarcoma.
 86. Preliminary Report on the Klamath Marsh Experiment Farm.
 88. The Picking and Handling of Peanuts.
 89. An Improved Method of Artificial Pollination in Corn.
 90. Suggestions to Potato Growers on Irrigated Lands.

DOCUMENTS.

[In applying for these publications the name of the bureau as well as the number of the publication should be given, as "Bureau of Plant Industry, Document A-51."]

- Doc. A-51. Field Instructions for Farmers' Cooperative Demonstration Work.
 A-52. Economize! Cut Down the Expenses of the Farm.
 A-67. The Selection of Cotton and Corn Seed for Southern Farms.
 A-68. Fall Breaking and the Preparation of the Seed Bed.
 A-69. Field Instructions for Farmers' Cooperative Demonstration Work.
 A-71. The Production of Cotton Under Boll-Weevil Conditions.
 A-72. Farm Fertilizers.
 A-73. Crops for Southern Farms.
 A-74. Boys' Demonstration Work: The Corn Clubs.
 A-75. Results of Boys' Demonstration Work in Corn Clubs in 1910.
 A-77. Farm Fertilizers.
 A-78. An Effective Method for Preventing the Erosion of Hill Lands.
 241. Brief Cultural Directions for Tobacco.
 338. Distribution of Cotton Seed in 1908.
 416. The Wild Onion.
 433. Directions for Making Window Gardens.
 438. Cooperative Distribution of New Varieties of Smyrna Figs and Caprifigs.
 452. Hints to Settlers on the Minidoka Project, Idaho.
 457. Agricultural Conditions in Southern Texas.
 537. Cooperative Distribution of New Varieties of Smyrna Figs and Caprifigs (Second Revision).

- Doc. 578. Suggestions for Setting Permanent Pastures with Bermuda Grass as the Basis.
589. Have You a More Productive Corn than First-Generation Cross No. 182?
629. The Burning Quality of Tobacco, with Suggestions for Its Improvement in the Flue-Cured Types of Eastern North Carolina and South Carolina.
648. The Control of Cotton Wilt and Root-Rot.
676. The Relation of Handling to Decay in California Navel Oranges; Season 1910-11.
716. Distribution of Cotton Seed in 1912.
717. Suggestions on Growing Egyptian Cotton in the Southwest.

FARMERS' BULLETINS.

[The Farmers' Bulletins are a series of popular treatises issued by the Department of Agriculture. The following list includes only numbers contributed by the Bureau of Plant Industry. They should be applied for by number, as "Farmers' Bulletin No. 27."]

- F. B. 27. Flax for Seed and Fiber.
28. Weeds: And How to Kill Them.
30. Grape Diseases on the Pacific Coast.
91. Potato Diseases and Treatment.
101. Millets.
113. The Apple and How to Grow It.
118. Grape Growing in the South.
139. Emmer: A Grain for the Semiarid Regions.
140. Pineapple Growing.
154. The Home Fruit Garden: Preparation and Care.
157. The Propagation of Plants.
164. Rape as a Forage Crop.
167. Cassava.
174. Broom Corn.
175. Home Manufacture and Use of Unfermented Grape Juice.
176. Cranberry Culture.
181. Pruning.
185. Beautifying the Home Grounds.
188. Weeds Used in Medicine.
194. Alfalfa Seed.
195. Annual Flowering Plants.
198. Strawberries.
204. The Cultivation of Mushrooms.
213. Raspberries.
218. The School Garden.
219. Lessons from the Grain-Rust Epidemic of 1904.
220. Tomatoes.
221. Fungous Diseases of the Cranberry.
224. Canadian Field Peas.
229. The Production of Good Seed Corn.
231. Spraying for Cucumber and Melon Diseases.
232. Okra: Its Culture and Uses.
238. Citrus Fruit Growing in the Gulf States.
242. An Example of Model Farming.
243. Fungicides and Their Use in Preventing Diseases of Fruits.
245. Renovation of Worn-Out Soils.
246. Saccharine Sorghums for Forage.
248. The Lawn.
250. The Prevention of Stinking Smut of Wheat and Loose Smut of Oats.
253. The Germination of Seed Corn.

- F. B. 254. Cucumbers.
255. The Home Vegetable Garden.
260. Seed of Red Clover and Its Impurities.
271. Forage-Crop Practises in Western Oregon and Western Washington.
272. A Successful Hog and Seed-Corn Farm.
274. Flax Culture.
278. Leguminous Crops for Green Manuring.
279. A Method of Eradicating Johnson Grass.
280. A Profitable Tenant Dairy Farm.
282. Celery.
283. Spraying for Apple Diseases and the Codling Moth in the Ozarks.
284. Insect and Fungous Enemies of the Grape East of the Rocky Mountains.
286. Comparative Value of Whole Cotton Seed and Cotton-Seed Meal in Fertilizing Cotton.
288. Nonsaccharine Sorghums.
289. Beans.
291. Evaporation of Apples.
292. Cost of Filling Silos.
294. Farm Practice in the Columbia Basin Uplands.
299. Diversified Farming under the Plantation System.
301. Home-Grown Tea.
302. Sea Island Cotton.
304. Growing and Curing Hops.
306. Dodder in Relation to Farm Seeds.
307. Roselle: Its Culture and Uses.
310. A Successful Alabama Diversification Farm.
312. A Successful Southern Hay Farm.
313. Harvesting and Storing Corn.
314. A Method of Breeding Early Cotton to Escape Boll-Weevil Damage.
318. Cowpeas.
319. Demonstration Work in Cooperation with Southern Farmers.
322. Milo as a Dry-Land Grain Crop.
323. Clover Farming on the Sandy Jack-Pine Lands of the North.
324. Sweet Potatoes.
325. Small Farms in the Corn Belt.
326. Building up a Run-Down Cotton Plantation.
331. Forage Crops for Hogs in Kansas and Oklahoma.
333. Cotton Wilt.
337. Cropping Systems for New England Dairy Farms.
339. Alfalfa.
343. The Cultivation of Tobacco in Kentucky and Tennessee.
347. The Repair of Farm Equipment.
354. Onion Culture.
355. A Successful Poultry and Dairy Farm.
357. Methods of Poultry Management at the Maine Agricultural Experiment Station.
361. Meadow Fescue: Its Culture and Uses.
362. Conditions Affecting the Value of Market Hay.
364. A Profitable Cotton Farm.
365. Farm Management in Northern Potato-Growing Sections.
368. The Eradication of Bindweed, or Wild Morning-Glory.
370. Replanning a Farm for Profit.
372. Soy Beans.
380. The Loco-Weed Disease.

- F. B. 382. The Adulteration of Forage-Plant Seeds.
 386. Potato Culture on Irrigated Farms of the West.
 395. Sixty-Day and Kherson Oats.
 398. Farm Practice in the Use of Commercial Fertilizers in the South Atlantic States.
 400. A More Profitable Corn-Planting Method.
 401. The Protection of Orchards in the Pacific Northwest from Spring Frosts by Means of Fires and Smudges.
 402. Canada Bluegrass: Its Culture and Uses.
 406. Soil Conservation.
 407. The Potato as a Truck Crop.
 414. Corn Culture.
 415. Seed Corn.
 416. The Production of Cigar-Leaf Tobacco in Pennsylvania.
 417. Rice Culture.
 420. Oats: Distribution and Uses.
 422. Demonstration Work on Southern Farms.
 424. Oats: Growing the Crop.
 426. Canning Peaches on the Farm.
 427. Barley Culture in the Southern States.
 428. Testing Farm Seeds in the Home and in the Rural School.
 431. The Peanut.
 432. How a City Family Managed a Farm.
 433. Cabbage.
 434. The Home Production of Onion Seed and Sets.
 436. Winter Oats for the South.
 437. A System of Tenant Farming and Its Results.
 440. Spraying Peaches for the Control of Brown-Rot, Scab, and Curculio.
 441. Lespedeza, or Japan Clover.
 443. Barley: Growing the Crop.
 446. The Choice of Crops for Alkali Land.
 448. Better Grain-Sorghum Crops.
 454. A Successful New York Farm.
 455. Red Clover.
 458. The Best Two Sweet Sorghums for Forage.
 460. Frames as a Factor in Truck Growing.
 462. The Utilization of Logged-Off Land for Pasture in Western Oregon and Western Washington.
 464. The Eradication of Quack-Grass.
 466. Winter Emmer.
 467. The Control of the Chestnut-Bark Disease.
 471. Grape Propagation, Pruning, and Training.
 472. Systems of Farming in Central New Jersey.
 475. Ice Houses.

SEPARATE REPRINTS FROM THE YEARBOOK.

[In applying for these separates the number should be given, as "Yearbook Separate No. 47."]

- Ybk. Sep. 47. Small Fruit Culture for Market.
 50. The Cause and Prevention of Pear Blight.
 89. Grass and Forage Experiment Station at Garden City, Kans.; and Cooperative Branch Stations in the South.
 90. Division of Agrostology.
 128. Millets.
 176. Progress of Economic and Scientific Agrostology.

- Ybk. Sep. 203. Commercial Plant Introduction.
 206. Poisonous Plants of Northern Stock Ranges.
 208. Fungus Diseases of Forest Trees.
 215. Commercial Pear Culture.
 266. Top Working Orchard Trees.
 290. Fertilizers for Special Crops.
 293. Cultivation and Fertilization of Peach Orchards.
 320. Relation of Sugar Beets to General Farming.
 330. Promising New Fruits.
 351. Sugar-Beet Seed Breeding.
 354. Some Uses of the Grapevine and Its Fruit.
 361. Cotton Culture in Guatemala.
 399. Promising New Fruits.
 401. Progress in Drug-Plant Cultivation.
 419. Range Management.
 450. Promising New Fruits.
 453. The Status of the American Lemon Industry.
 459. Truck Farming in the Atlantic Coast States.
 463. Diseases of Ornamental Trees.
 483. The Causes of Southern Rural Conditions and the Small Farm as an Important Remedy.
 487. Types of Farming in the United States.
 490. Intensive Methods and Systematic Rotation of Crops in Tobacco Culture.
 496. Promising New Fruits.
 501. The Farmers' Cooperative Demonstration Work.
 503. Conditions Influencing the Production of Sugar-Beet Seed in the United States.
 509. Farming as an Occupation for City-Bred Men.
 515. Progress in Methods of Producing Higher Yielding Strains of Corn.
 520. The Handling of Deciduous Fruits on the Pacific Coast.
 521. Promising New Fruits.
 530. Nitrogen-Gathering Plants.
 540. Increased Yields of Corn from Hybrid Seed.
 541. The Utilization of Crop Plants for Paper Making.
 546. Cooperation in the Handling and Marketing of Fruits.
 549. Promising New Fruits.
 550. The Precooling of Fruit.
 551. Camphor Cultivation in the United States.

DIVISION OF AGROSTOLOGY.

BULLETINS.

[In applying for these bulletins the name of the division as well as the number of the bulletin should be given, as "Division of Agrostology, Bulletin No. 1."]

- Bul. 1. Notes on Grasses and Forage Plants of the Southeastern States.
 2. Fodder and Forage Plants, Exclusive of the Grasses.
 6. Grasses and Forage Plants of the Dakotas.
 9. Notes on the Grasses and Forage Plants of Iowa, Nebraska, and Colorado.
 10. A Report upon the Grasses and Forage Plants of Central Texas.
 12. Grasses and Forage Plants and Forage Conditions of the Eastern Mountain Region.
 13. The Red Desert of Wyoming and Its Forage Resources.
 14. Economic Grasses.
 15. Forage Plants and Forage Resources of the Gulf States.

- Bul. 16. Grazing Problems in the Southwest, and How to Meet Them.
 19. The Structure of the Caryopsis of Grasses with Reference to Their Morphology and Classification.
 20. American Grasses. III. Descriptions of the Tribes and Genera.
 21. Studies on American Grasses. The North American Species of *Chaetochloa*.
 22. Cooperative Experiments with Grasses and Forage Plants.
 23. Studies on American Grasses. Revision of the North American Species of *Bromus* Occurring North of Mexico.
 24. Studies on American Grasses. I. Some Recent Collections of Mexican Grasses. II. Notes on *Panicum Nitidum* Lam. and *Panicum Pubescens* Lam. III. Miscellaneous Notes and Descriptions of New Species.
 25. Field Work of the Division of Agrostology: A Review and Summary of the Work Done Since the Organization of the Division, July 1, 1895.

CIRCULARS.

[In applying for these circulars the name of the division as well as the number of the circular should be given, as "Division of Agrostology, Circular No. 1."]

- Circ. 1. A Note on Experimental Grass Gardens.
 3. Saltbushes.
 4. The Renewing of Worn-Out Native Prairie Pastures.
 8. Experiments in Range Improvements.
 10. *Poa Fendleriana* and Its Allies.
 11. Flat Pea.
 12. Rape as a Forage Crop.
 13. Florida Beggar Weed, Also Known as Beggar Weed, Florida Clover, Giant Beggar Weed.
 14. Velvet Bean.
 18. Smooth Brome-Grass.
 21. Cooperative Range Grass and Forage Plant Experiments at Highmore, S. Dak.
 22. Grass and Forage Plant Investigations on the Pacific Coast.
 23. Progress of Experiments in Forage Crops and Range Improvement at Abilene, Tex.
 27. Agrostological Notes.
 28. Grasses and Fodder Plants on Potomac Flats.
 30. New or Little Known Grasses.
 32. Some Arizona Grasses.
 33. Range Grass and Forage Plant Experiments at Highmore, S. Dak. Report of Progress.
 34. *Aristida Purpurea* Nutt. and Its Allies.
 35. Agrostological Notes.

DIVISION OF BOTANY.

BULLETINS.

[In applying for these bulletins the name of the division as well as the number of the bulletin should be given, as "Division of Botany, Bulletin No. 3."]

- Bul. 3. Grasses of the South. Report on Certain Grasses and Forage Plants for Cultivation in the South and Southwest.
 6. Grasses of the Arid Districts. Report of an Investigation of the Grasses of the Arid Districts of Texas, New Mexico, Arizona, Nevada, and Utah in 1887.
 8. A Record of Some of the Work of the Division, including Extracts from Correspondence and Other Communications.
 10. Experiments Made in 1888 in the Treatment of Downy Mildew and Black Rot of the Grape Vine.
 11. Experiments Made in 1889 in the Treatment of Fungous Diseases of Plants.
 17. Legislation against Weeds.

- Bul. 23. Russian Cereals Adapted for Cultivation in the United States.
- 25. Shade in Coffee Culture.
- 27. Seeds of Commercial Saltbushes.
- 28. The Chayote: A Tropical Vegetable.
- 29. The Seed Coats of Certain Species of the Genus *Brassica*.

CIRCULARS.

[In applying for these circulars the name of the division as well as the number of the circular should be given, as "Division of Botany, Circular No. 5."]

- Circ. 5. Giant Knotweed, or *Sachaline*.
- 7. Tumbling Mustard.
- 8. Crimson Clover Hair Balls.
- 11. The Vitality of Seed Treated with Carbon Bisulphid.
- 13. Observations on Recent Cases of Mushroom Poisoning in District of Columbia.
- 16. The Section of Seed and Plant Introduction.
- 19. Hop Cultivation in Bohemia.
- 24. Red Clover Seed.
- 28. Rubber Cultivation for Porto Rico.

CONTRIBUTIONS FROM THE U. S. NATIONAL HERBARIUM.

[This series is composed of papers of a technical character, treating principally of systematic botany. Vol. VII and subsequent numbers were published by the National Museum. In making application volume and number should be given, as "Contributions from U. S. Nat. Herb., Vol. I, No. 4."]

- Vol. I, No. 4. List of Plants Collected by Dr. Edward Palmer, in 1890, in Western Mexico and Arizona, at (1) Alamos, (2) Arizona.
- Vol. I, No. 9. Report on a Collection of Plants Made in the States of Sonora and Colima, Mexico, by Dr. Edward Palmer, in the years 1890 and 1891.
- Vol. II. Botany of Western Texas.
- Vol. III, No. 1. Monograph of the Grasses of the United States and British America.
- Vol. III, No. 2. Preliminary Revision of the North American Species of *Cactus*, *Anhalonium*, and *Lophophora*.
- Vol. III, No. 4. Report on a Collection of Plants Made by J. H. Sandberg and Assistants in Northern Idaho in the Year 1892.
- Vol. III, No. 5. Report on Mexican Umbelliferae, Mostly from the State of Oaxaca, Recently Collected by C. G. Pringle and E. W. Nelson. Descriptions of Plants, Mostly New, from Mexico and the United States.
- Vol. III, No. 7. Preliminary Revision of the North American Species of *Echinocactus*, *Cereus*, and *Opuntia*.
- Vol. III, No. 8. Flora of the Black Hills of South Dakota.
- Vol. III, No. 9. 1. Flora of Southwestern Kansas. Report on a Collection of Plants Made by C. H. Thompson in 1893. 2. *Crepis Occidentalis* and Its Allies. 3. Plants from the Big Horn Mountains of Wyoming. 4. *Leibergia*, a New Genus of Umbelliferae from the Columbia River Region. 5. *Roseanthus*, a New Genus of Cucurbitaceae, from Acapulco, Mexico.
- Vol. V, No. 1. General Report on a Botanical Survey of the Cœur d'Alene Mountains in Idaho during the Summer of 1895.
- Vol. V, No. 2. Notes on the Plants used by the Klamath Indians of Oregon.
- Vol. V, No. 3. Studies of Mexican and Central American Plants.
- Vol. V, No. 4. Studies of Mexican and Central American Plants—No. 2. Two New Species of Plants from the Northwestern United States. *Hesperogenia*, a New Genus of Umbelliferae from Mount Rainier. Three New Species of *Tradescantia* from the United States. *Treleasea*, a New Genus of Commelinaceae. Notes on Useful Plants of Mexico.
- Vol. V, No. 5. Plant Covering of Ocracoke Island; a Study in the Ecology of the North Carolina Strand Vegetation.
- Vol. V, No. 6. Report on a Botanical Survey of the Dismal Swamp Region.
- Vol. VI. Plant Life of Alabama. An account of the Distribution, Modes of Association, and Adaptations of the Flora of Alabama, Together with a Systematic Catalogue of the Plants Growing in the State.

Vol. VII, No. 1. Monograph of the North American Umbelliferae.

Vol. VII, No. 2. The Origin and Distribution of the Cocoa Palm.

Notes on Useful Plants of Mexico. [Reprint from U. S. National Herbarium, Vol. V, No. 4.]

INVENTORIES.¹

Inventory 1. Foreign Seeds and Plants Imported by the Section of Seed and Plant Introduction. Numbers 1-1000.

Inventory 2. Foreign Seeds and Plants Imported by the Section of Seed and Plant Introduction. Numbers 1001-1900.

Inventory 5. Foreign Seeds and Plants Imported by the Department of Agriculture, and for Distribution through the Section of Seed and Plant Introduction. Numbers 1901-2700.

Inventory 7. Foreign Seeds and Plants Imported by the Department of Agriculture, through the Section of Seed and Plant Introduction, for Distribution in Cooperation with the State Agricultural Experiment Stations. Numbers 2701-3400.

DIVISION OF POMOLOGY.

BULLETINS.

[In applying for these bulletins the name of the division as well as the number of the bulletin should be given, as "Division of Pomology, Bulletin No. 2."]

Bul. 2. Report on the Adaptation of Russian and Other Fruits to the Extreme Northern Portions of the United States.

10. Prunes and Prune Culture in Western Europe, with Special Reference to Existing Conditions in the Pacific Northwest.

CIRCULAR.

[In applying for this circular the name of the division as well as the number of the circular should be given, as "Division of Pomology, Circular No. 2."]

Circ. 2. Prune Culture in the Pacific Northwest.

DIVISION OF VEGETABLE PHYSIOLOGY AND PATHOLOGY.

BULLETINS.

[In applying for these bulletins the name of the division as well as the number of the bulletin should be given, as "Division of Vegetable Physiology and Pathology, Bulletin No. 2."]

Bul. 2. The California Vine Disease.

5. The Pollination of Pear Flowers.

9. Bordeaux Mixture, Its Chemistry, Physical Properties, and Toxic Effects on Fungi and Algae.

11. Legal Enactments for Restriction of Plant Diseases. Compilation of Laws of United States and Canada.

12. Bacterial Disease of Tomato, Eggplant, and Irish Potato.

13. Sooty Mold of the Orange and Its Treatment.

14. The Bermuda Lily Disease.

16. Cereal Rusts of the United States: A Physiological Investigation.

17. Wilt Disease of Cotton, Watermelon, and Cowpea.

19. Stigmonose: A Disease of Carnations and Other Pinks.

21. Two Diseases of Red Cedar.

22. Xenia, or Immediate Effect of Pollen, in Maize.

23. Spot Disease of the Violet (*Alternaria violæ*).

28. The Cultural Characters of *Pseudomonas hyacinthi*, *Ps. campestris*, *Ps. phaseoli*, and *Ps. stewartii*—Four One-Flagellate Yellow Bacteria Parasitic on Plants.

29. Plant Breeding.

¹ For later numbers see Bureau of Plant Industry bulletins.

CIRCULARS.

[In applying for these circulars the name of the division as well as the number of the circular should be given, as "Division of Vegetable Physiology and Pathology, Circular No. 6."]

- Circ. 6. Treatment of Black-Rot of the Grape.
 15. Treatment for Sooty Mold of the Orange.
 16. Danger of Introducing a Central American Coffee Disease into Hawaii.

JOURNAL OF MYCOLOGY.

[Devoted especially to the study of fungi in their relation to plant diseases.]

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| Vol. VI, No. 2. | Vol. VI, No. 4. | Vol. VII, No. 2. | Vol. VII, No. 4. |

SECTION OF VEGETABLE PATHOLOGY.

- Bul. 11. Report on the Experiments Made in 1889 in the Treatment of the Fungus Diseases of Plants.

OFFICE OF FIBER INVESTIGATIONS.

REPORTS.

[In applying for these publications the name of the office as well as the number of the report should be given, as "Office of Fiber Investigations, Report No. 4."]

- Rept. 4. A Report on Flax Culture for Fiber in the United States, including Special Reports on Flax Culture in Ireland, Belgium, and Austria, with Statements Relative to the Industry in Russia.
 5. A Report on the Leaf Fibers of the United States, detailing Results of Recent Investigations Relating to Florida Sisal Hemp, the False Sisal Hemp Plant of Florida, and Other Fiber-Producing Agaves, Bowstring Hemp, Pineapple Fiber, New Zealand Flax, and Bear-Grass.
 6. A Report on the Uncultivated Bast Fibers of the United States, including the History of Previous Experiments with the Plants or Fibers, and Brief Statements Relating to the Allied Species that are Produced Commercially in the Old World.
 7. A Report on the Cultivation of Ramie in the United States, with Statements Concerning Practice in Foreign Countries, Cost of Cultivation and Percentages of Yield, the Machine Question, and Preparation of Fiber for Manufacture.
 8. A Report on the Culture of Hemp and Jute in the United States, with Statements Concerning the Practice in Foreign Countries, the Preparation of the Fiber for Market, and Remarks on the Machine Question.
 10. A Report on Flax Culture for Seed and Fiber in Europe and America.
 11. A Report on the Culture of Hemp in Europe, including a Special Consular Report on the Growth of Hemp in Italy, received through the Department of State.



